

Claims

1. (Currently Amended) An apparatus for use in converting electrical energy to a signal which is suitable for driving a light element in ~~an~~ a model train End of Train (EOT) device ~~in a model train track arrangement~~, said apparatus comprising:

(a) an EOT device engageable with a model railway vehicle having at least one truck assembly equipped with a circuit board assembly connected by wires that can be easily installed and removed for relocation between model railway vehicles;

~~(b) a control system for said EOT device;~~

(~~e~~ b) an electronic circuit for said EOT device disposed only on one of at least one of a removable said truck assembly ~~portion~~ of such model railway vehicle and said EOT device for power conversion and light signal timing; ~~and~~

(c) at least two electrically conductive wheels disposed upon said truck assembly to provide power to said electronic circuits; and

(d) at least one light element disposed ~~at least one of~~ in and on said EOT device and connected by said wires to receive a signal from said electronic circuit.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) An apparatus, according to claim 1, wherein said electronic circuit includes a microcontroller for accurate timing of said light element ~~signal~~.

5. (Cancelled)

6. (Currently Amended) An apparatus, according to claim 1, wherein said electronic circuit board is reduced to a size to fit beneath an HO (1/87th) scale ~~model railroad car~~ said truck assembly.

7. (Currently Amended) An apparatus, according to claim 1, wherein said ~~EOT control system~~ electronic circuit is designed for installation on most model train railroad car bodies ~~cars~~.

8. (Currently Amended) An apparatus, according to claim 1, wherein said ~~EOT control system~~ electronic circuit includes a power conditioning circuit having full wave rectification.

9. (Currently Amended) An apparatus, according to claim 8, wherein said ~~EOT control system~~ electronic circuit ~~power conditioning circuit~~ includes electrical filters.

10. (Currently Amended) An apparatus, according to claim 8, wherein said ~~EOT control system~~ electronic circuit ~~power conditioning circuit~~ includes voltage regulation.

11. (Cancelled)

12. (Cancelled)

13. (Currently Amended) An apparatus, according to claim 1 ~~3~~, wherein said electronic circuits receives control signals from said electrically conductive wheels to ~~track rails~~ control said EOT device's light element ~~functions~~.

14. (Currently Amended) An apparatus, according to claim 1, wherein said apparatus further includes a hall effect switch ~~means~~ that senses magnetic fields ~~connected to said light element for controlling said the~~ and is used to control said light element.

15. (Cancelled)

16. (Original) An apparatus, according to claim 1, wherein said EOT light element is a light emitting diode for reducing power consumption and for providing high luminance output.

17. (Currently Amended) An apparatus, according to claim 1, wherein said ~~EOT control system~~ electronic circuits are powered by ~~is an analog model railroad control system~~ power picked up from said electrically conductive wheels.

18. (Currently Amended) An apparatus, according to claim ~~13~~ 1, wherein said ~~EOT control system is a digital model railroad control system~~ power picked up from said electrically conductive wheels alternates in polarity and contains digitally encoded information to con troll said light element.

19. (Cancelled)

20. (Cancelled)

21. (Currently Amended) An apparatus for use in converting electrical energy to a signal ~~which is~~ suitable for driving a light element in ~~an~~ a modal train End of Train (EOT) device ~~in a model train track arrangement~~, said apparatus comprising:

(a) an EOT device and at least onetruck having a circuit board assembly connected by wires, said EOT device engageable with a model railway ~~vehiele~~ car body that can be easily installed and removed for relocation between model railway car bodies ~~vehicles~~;

~~(b) a control system for said EOT device;~~

(b e) ~~an~~ electronic circuit circuits for said EOT device disposed only on one of at least one truck assembly and a combination of a removable truck portion of such model railway vehicle, a body of said EOT device and a combination of said body of housing for said EOT device and associated wiring between said removable truck portion of such model railway vehicle and said body portion of said EOT device for power conversion and light signal timing; ~~and~~

(c) at least one battery mounted only on said at least one truck assembly to provide power to electronic circuit; and

(d) at least one light element disposed ~~at least one of~~ in and on said EOT device and connected by said wires to receive a signal from said electronic circuit.